TCEP

Tobacco Control Enhancement Project

Secondhand Smoke: Overview and Scientific Evidence

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Public awareness of the health risk posed by secondhand smoke began to surface in the early 1970s. Since then, a variety of studies have debated the scientific validity of claims regarding the harmful effects of secondhand smoke. The overwhelming consensus supported by agencies such as the United States Environmental Protection Agency indicates that secondhand smoke is a major cause of indoor air pollution, can cause a range of health problems, and leads to the deaths of over 50,000 non-smokers per year. [1]

When considering the effects of secondhand smoke, it is important to keep in mind that while secondhand smoke has been linked to negative health consequences in the general public, there are specific populations for whom secondhand smoke may be especially harmful, such as individuals with compromised respiratory systems, the elderly, and children.[2] Children and infants appear to be at risk for higher incidence of asthma,[3] tooth decay,[4] and respiratory infections.[5] Interestingly, there is evidence to suggest that merely smoking outside (rather than inside the house) is not enough to protect children from secondhand smoke,[6] due to smoke traveling inside the house or children being exposed to smoke in outdoor environments.

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There is also evidence to suggest that while secondhand smoke may be especially harmful to specific populations, there are also populations that are more likely to be exposed to secondhand smoke, such as blue-collar workers, lower-income families, and certain ethnic groups.[7] The possibility of an overlap between groups who are at risk for exposure to secondhand smoke and groups who are particularly sensitive to the effects of secondhand smoke presents an especially urgent public health issue.

The harmful effects of secondhand smoke make it clear that strategies need to be developed to reduce exposure. Like other forms of tobacco control, secondhand smoke control strategies are multi-faceted. Efforts to combat secondhand smoke exposure generally fall into two categories: education and smoking bans.

Although secondhand smoke education and prevention activities have much in common with other tobacco control activities, there are also fundamental differences. Secondhand smoke education focuses on making smokers aware of the impact that their smoking has on individuals and the world around them, rather than the specific impact on their own bodies. For non-smokers, secondhand smoke control focuses on the promotion of a "zero-tolerance" type policy, where non-smokers are made aware that they have the power to obtain a setting (home, workplace, or other) that is free of harmful materials such as secondhand smoke. When integrating anti-secondhand smoke activities into the larger framework of tobacco control, tobacco control advocates and policy makers should be aware of the similarities of anti-secondhand smoke activities to other tobacco control activities, but also keep in mind the essential differences.

Education

Many tobacco control initiatives have a core value of changing community and society attitudes about tobacco use, and strategies towards secondhand smoke control are no different. Education around the negative effects of tobacco use is one strategy used to affect community change. Research in the area of secondhand smoke control supports two types of education, the education of smokers, and education of non-smokers.

Smoker education focuses on informing the smokers of the negative effects that their smoking is having on the individuals around them. An example of this is the "Lets take it outside" campaign run by the Kansas Health Foundation.[8] This campaign aimed to "applaud" smokers who protected others from the harmful effects of their smoking. Another example of smoker education is education of smoking parents by physicians. Experimental trials found that physician counseling of parents who were smokers resulted in lowered rates of secondhand smoke exposure for the smoker's children.[9]

Non-smoker education initiatives have primarily focused on informing the public of the health risks of being exposed to secondhand smoke. Studies have found that a surprising number of individuals are not aware of the risks posed by exposure to secondhand smoke.[10] Raising awareness in these

individuals of the risks posed by secondhand smoke can lead to a lower tolerance for exposure to secondhand smoke, and possibly greater desire by non-smokers to change workplace smoking regulations.[11]

Both of these forms of education have the goal of changing general societal attitudes regarding secondhand smoke. The vast majority of research in tobacco control suggests that these "broad" strategies need to be combined with other more specific intervention mechanisms, such as smoking bans.

Smoking Bans

The majority of workplaces have some type of regulation regarding smoking in the workplace. Although these regulations often achieve a moderate reduction in smoking rates, the optimal results are only achieved through policies that ban smoking from 100% of the workplace.[12,13] One major weakness in workplace smoking bans is that certain occupations are less likely to be affected by workplace bans. Specifically, workplaces such as bars, restaurants, and blue-collar workplaces tend to be unaffected by smoking bans, although employees of such workplaces may favor smoking regulation.[14, 15] Many of these employees are unskilled laborers, and may be unsure how to approach management around secondhand smoke exposure issues. One topic that the literature has raised is that since unions are generally supportive of workplace smoking bans,[16] unions should be enlisted in secondhand smoke issues, educated around the risks of secondhand smoke, and encouraged to use tobacco control issues as part of the collective bargaining process. Unions may strengthen their bargaining process by incorporating the knowledge that secondhand smoke exposure is even more widespread than often thought. When secondhand smoke is in the gas phase, it has organic compounds and tracers (e.g. benzene, naphthalene, nicotine) that can cling to room furnishings, and depending upon amount of ventilation, can be detected for 3 days after smoking has stopped, continuing to release chemicals into the air. The implication is that non-smokers trying to avoid secondhand smoke by waiting to occupy the room until after smoking activity has stopped may still be exposed to secondhand smoke constituents.[17]

In addition to workplace bans, regulations currently exist to protect the health of residents of multi-unit buildings.[18] The use of these laws to regulate smoking provides a mechanism by which to regulate secondhand smoke exposure in certain types of dwellings.

One important issue with all tobacco control activities is that of opposition from the tobacco industry or other forces, and the reaction to secondhand smoke initiatives has historically been no different. A common note of opposition is that smoking bans will lead to fewer patrons in bars, pubs, restaurants, or other establishments that previously were not smokefree. This perception is often reinforced by propaganda from the tobacco industry, and internal tobacco industry documents have shown a link between the tobacco industry and the restaurant industry.[19] However, a body of research evidence exists showing little or no drop off with regard to consumer intentions to visit newly smoke free facilities, and businesses that have enacted smokefree regulations have not experienced declines in sales.[20, 21, 22, 23] In fact, reviews of the literature have found that all of the studies suggesting a negative effect due to smoking bans have been funded by the tobacco industry. These studies generally use poor research designs, while studies not funded by the tobacco industry show no revenue drop offs (or show revenue increases) and generally use more objective, reliable indicators when assessing changes in patronage or sales.[24] Policy change such as enactment of smoking bans shows the clear necessity of conducting media advocacy when addressing issues of secondhand smoke. In fact, research suggests that interventions such as smoking bans are most effective in communities where support for tobacco control has been raised through other interventions such as education and media campaigns. A California study[25] found that families who adopt a self-imposed smoking ban in the family home were more likely to do so if they had been exposed to community programs and/or media segments detailing the dangers of secondhand smoke.

Conclusions

Activities such as smoking bans serve to provide concrete mechanisms to reduce exposure to secondhand smoke and can be partnered with education-based strategies to change general societal attitudes towards smoking. As with most tobacco control interventions, activities designed to counter secondhand smoke work best in the framework of a larger campaign. Integrating secondhand smoke strategies into an overall framework helps to counter opposition to tobacco control interventions and promote societal attitude change.

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